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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/695,069

10/28/2003

William J. Dally

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EXAMINER

CHOI, EUNSOOK

ART UNIT

PAPER NUMBER

2619

MAIL DATE

DELIVERY MODE

01/09/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/695,069	Applicant(s) DALLY ET AL.	
	Examiner Eunsook Choi	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/15/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In the reply filed on 10/15/2007, the following has occurred:
 - Claims 1, 2, 3, 5, 13, 14, 15, 16, 17, and 23 are amended.
 - The previous rejection under 35 USC § 112 regarding claims 1-12 has been withdrawn.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1-23 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 12, and 23 recite the limitation "the clock signal" in a lower frequency data demultiplexer. There is insufficient antecedent basis for this limitation in the claim. "the clock signal is not the same as "a clock signal" in the high frequency data demultiplexer.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 12, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Huffman (US Patent 4,387,459).

Regarding claims 1 and 12, Huffman teaches in Fig. 2 High Speed Demultiplexer (40) and Low Speed Demultiplexer (22a, 24a, 26a, 28a). Huffman further teaches High Speed Demultiplexer (40) in Fig. 4 including a clock source (a clock source; a higher frequency data demultiplexer which demultiplexes the data on the communication link to an intermediate frequency signal, and a lower frequency data demultiplexer coupled to the higher frequency demultiplexer which further demultiplexes the intermediate frequency signal). Huffman teaches in Fig. 7 a timing diagram with high speed clock signal (a clock signal from the clock source being precisely distributed to the higher frequency data demultiplexer) and channel clock signal (the clock signal being less precisely distributed to the lower frequency data demultiplexer).

Regarding claim 23, Huffman teaches in Fig. 2 High Speed Demultiplexer (40) and Low Speed Demultiplexer (22a, 24a, 26a, 28a). Huffman further teaches High Speed Demultiplexer (40) in Fig. 4 including a clock source (high frequency data demultiplexer means relying on a clock signal, lower frequency data demultiplexer means relying on the clock signal). Huffman teaches in Fig. 7 a timing diagram with high speed clock signal (a clock signal precisely distributed from a clock source for demultiplexing the data on the communication link to an intermediate frequency signal) and channel clock signals (clock signal less precisely distributed from the clock source for demultiplexing the intermediate frequency signal).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 3, 5, 13, 14, 16, and 19 are rejected under 35 U.S.C. 103(a) as obvious over Huffman (US Patent 4,387,459).

Regarding claim 24, Huffman teaches in Fig. 2 and Fig. 6 High Speed Demultiplexer (40), Low Speed Demultiplexer (22a, 24a, 26a, 28a). Huffman further teaches High Speed Demultiplexer (40) in Fig. 4 including a clock source (a higher frequency data demultiplexer which demultiplexes the data on the communication link to an intermediate frequency signal a lower frequency data demultiplexer coupled to the higher frequency demultiplexer which further demultiplexes the intermediate frequency signal). However, Huffman does not teach formed on an electronic chip. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have the higher frequency data demultiplexer and the lower frequency data demultiplexer formed on an electronic chip since it has been held that forming in one piece an article which has formally been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S.164 (1893).

Regarding claims 2 and 13, Huffman teaches the limitations for claims 1 and 12 as applied above. However, Huffman does not teach formed on a single circuit chip. It would have been obvious to one of ordinary skill in the art at the time of the invention

was made to have the higher frequency data demultiplexer and the lower frequency data demultiplexer formed on a single circuit chip since it has been held that forming in one piece an article which has formally been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S.164 (1893).

Regarding claims 3, 5, 14, and 16, Huffman teaches the limitations for claims 1 and 2 as applied above. Huffmans teaches in Fig. 4 and Fig. 6 High speed clock (115) and channel (1, 2, 3, and 4) clock signals (the clock signal is frequency divided to clock the lower frequency data demultiplexer).

Regarding claims 8 and 19, Huffman teaches the limitations for claim 1 as applied above. Huffmans teaches in Fig. 8 and Col. 3 Lines 1-5 a transmission medium (18) having a high speed serial data stream (a one-bit-wide bitstream).

8. Claims 7, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huffman (US Patent 4,387,459) as applied to claims 1 and 12 above, and further in view of Chang (US Patent 6628605).

Regarding claims 7 and 18, Huffman teaches the limitations for claims 1 and 12 as applied above. Huffmans does not teach clocked by a multiplying delay locked loop bit clock generator. Chang teaches the use of a delay locked loop circuit (Col. 2 line 63 – Col 3 Line 4, Chang). It would have been obvious to one having ordinary skill in the art at the time the invention was made to clock by a multiplying delay locked loop bit clock generator in generating clock signal to reduce jitter involve transmitting each data signal (Col. 2 line 63 – Col 3 Line 4, Chang).

Allowable Subject Matter

9. Claims 4, 6, 9, 10, 11, 15, 17, 20, 21, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments, see pages 6-8, filed 10/15/2007, with respect to the rejection(s) of claim(s) 1-24 under 35 USC § 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Huffman. Applicant's arguments on page 7 lines 9-11 clock signal on the lower frequency demultiplexer is different from the clock signal 190. Therefore, a new rejection under 35 USC § 112 regarding claims 1-23 is made.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eunsook Choi whose telephone number is 571-270-1822. The examiner can normally be reached on Monday-Friday 8:00-5:00 EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eunsook Choi
12/31/2007


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